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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/651,698	08/29/2003	David S. Goldberg	LEDGE-002	9205

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EXAMINER

COLE, LAURA C

ART UNIT	PAPER NUMBER
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1744

DATE MAILED: 01/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/651,698	Applicant(s) GOLDBERG ET AL.	
	Examiner Laura C Cole	Art Unit 1744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 December 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 and 31-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 and 31-40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>08292003</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of claims 1-17 and 33-40 in the reply filed on 06 December 2004 is acknowledged.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 33 and 34 are rejected under 35 U.S.C. 102(b) as being anticipated by Bolton et al., USPN 6,131,233.

Bolton et al. discloses the claimed invention including a mop head (1) comprising a plurality of cords (3), each cord attached at one end to a common surface (2), and the plurality of cords formed by "intertwining" a plurality of individual filaments (woven, Column 1 Lines 56-57), wherein the individual filaments are of less than 1.0 denier (Column 1 Lines 49-52). The individual filaments are split (Column 1 Lines 52-53) and are capable of being treated to split. The filaments are formed from a polyester and a nylon (Column 1 Lines 52-56, a nylon is a polyamide).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

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the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1-3, 6-9, and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Quearry et al., USPN 4,752,985 in view of Patrick, USPN 6,796,115.

Quearry et al. disclose the claimed invention including a mop head comprising at least two cords (16), arranged side-by-side and generally parallel to one another defining a layer of cords (see Figures; Column 4 Lines 20-28), wherein at least one cord is formed by twisting at least two filaments together ("two-ply", Column 5 Lines 39-51).

The cords are looped (25; see Figures). The plurality of cords is attached at one end to

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a common surface (see Figure 4, attached at "9") and the cords may be formed by intertwining individual filaments (Abstract). Quearry et al. does not disclose that the filaments being less than 1 denier or that the filament is made from a synthetic material such as nylon or polyester.

Patrick discloses a type of yarn that has good absorption properties, are preferred in the janitorial field, and do not unravel quickly (Column 1 Lines 33-47). Patrick discloses that the filaments may be less than one denier, including the range of spanning from about 0.02 denier to about 0.99 denier ("micro-denier", Column 3 Lines 49-50). The filament may comprise a polyester material (Column 3 Line 47), a nylon material (Column 3 Line 46), or a combination of nylon and polyester material (Column 3 Line 48).

It would have been obvious for one of ordinary skill in the art to substitute the filaments of Quearry et al. for ones that are less than 1 denier and made from synthetic material, as Patrick discloses, because it is a suitable material that is absorbent and does not unravel quickly thereby extending a longer usable life.

4. Claims 1-3, 6-11, 14-17, and 31-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Quearry et al., USPN 4,752,985 in view of Dugan, USPN 6,465,095.

Quearry et al. disclose all elements above, however do not disclose that the filaments being less than 1 denier, that the filament is made from a synthetic material such as nylon or polyester, or that the filaments are split.

Dugan discloses a type of yarn incorporating fibers and twisting at least two fibers or filaments together (Column 15 Lines 62-67) wherein the filaments are less than

1 denier, specifically 0.5 denier (Column 7 Lines 20-24). The filament comprises a combination of polyester and nylon material (Column 1 Lines 17-21; Column 2 Line 66 to Column 3 Line 10). The filaments are split (Abstract) to comprise a core member (central portion of "8" in Figure 1C), a plurality of projections (the portion of "8" that extends from the center of Figure 1C), and a wedge-shaped insert disposed between every other projection (6; Figure 1C). The individual filaments are split or non-split (Column 16 Lines 20-23). Also, the filaments can be a combination of split and non-split filaments (Column 8 Lines 2-7). The filaments are capable of being formed by extrusion (Column 8 Lines 23-39). The filaments are capable of being treated to split (Column 2 Lines 24-35; Column 7 Line 62 to Column 8 Line 17).

It would have been obvious for one of ordinary skill in the art to substitute the filaments of Quearry et al. for ones that are less than 1 denier and made from synthetic material and are splittable, as Dugan discloses, because it is a suitable material that is used in a variety of textile applications.

5. Claims 4-5 and 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Quearry et al., USPN 4,752,985 in view of Dugan, USPN 6,465,095, and in further view of JP 64-58227 (herein '227; see also the English Translation of Abstract).

Quearry et al. and Dugan disclose all elements above, however do not disclose that one cord is from about 1,000 denier to about 25,000 denier.

'227 discloses a mop yarn formed from nylon material, wherein there are at least two cords of 500 to 10,000 denier are twisted. This yarn has good color developability, wash-fastness and excellent dirt removability.

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It would have been obvious for one of ordinary skill in the art to modify the nylon cords of Quearry et al. and Dugan to have a denier of at least 1,000 to about 25,000, as '227 teaches, in order to provide a mop cord having characteristics of excellent dirt removal.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

JP 8-266455 (herein '455) and the English translation of the Abstract disclose a mop having polyamide (nylon) cords that have 300-20,000 denier.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura C Cole whose telephone number is (571) 272-1272. The examiner can normally be reached on Monday-Thursday, 7:30am - 5pm, alternating Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert J Warden can be reached on (571) 272-1281. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

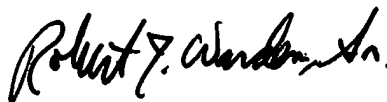
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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LCC

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12 January 2005



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